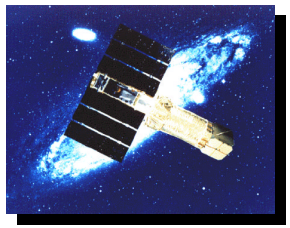
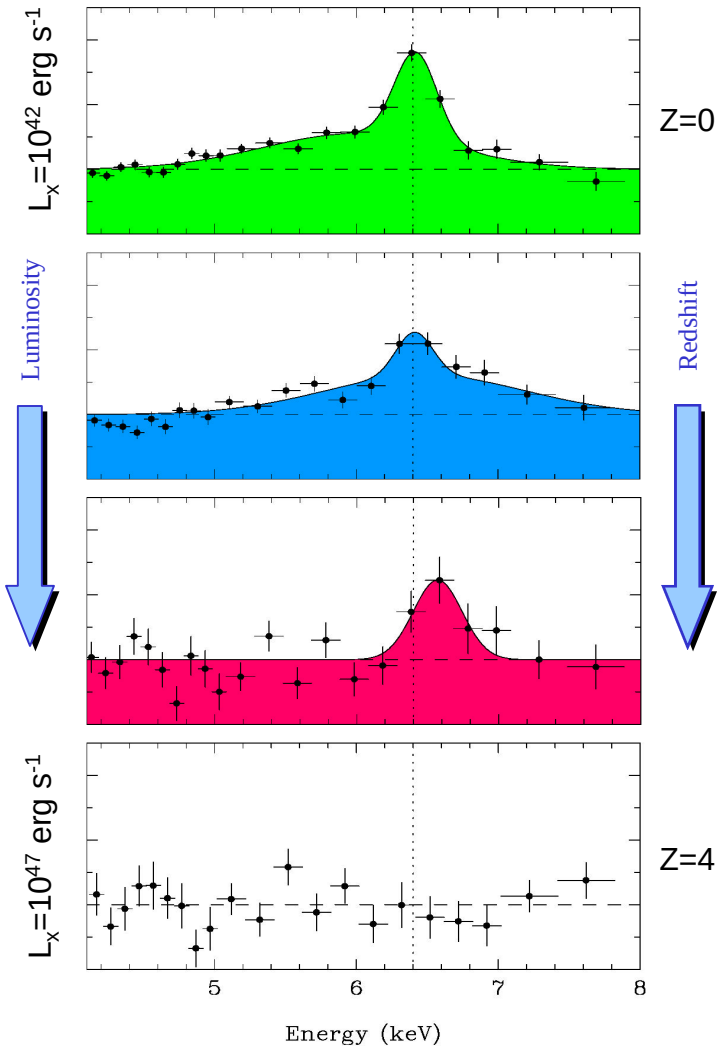
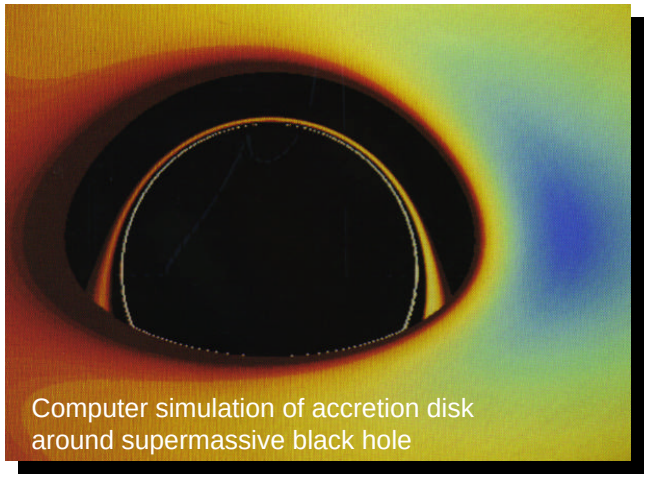


On the Dependence of Iron K-line Profiles with Luminosity in Active Galactic Nuclei

Nandra, K., George, I.M., Mushotzky, R.F., Turner, T.J., Yaqoob, T, to appear in October 20 *ApJ Letters*



- Gravitational time dilation close to supermassive black hole in active galaxies distorts iron emission line observed in X-rays.
- ASCA data obtained for objects ranging from nearby objects to powerful quasars close to the edge of the observable universe.
- Black hole signature reduces in strength as the source power and redshift increase, eventually disappearing.
- Effect probably due to the intense radiation of the quasars stripping away electrons from the iron atoms, suppressing the emission line.
- Data allow investigation of the physical conditions around supermassive black holes and their evolution through cosmological time.


Computer simulation of accretion disk around supermassive black hole